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ABSTRACT

Developed by the Initial Learning in Mainstreaming Project, the manual presents an instructional program to teach mainstreamed handicapped elementary school students how to round off numbers. In addition to detailed teaching instructions and accompanying tape recordings for students, the manual includes tests, worksheets, and pages to be made into transparencies for projection. (DLS)

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ROUNDING NUMBERS

BEST COPY AVAILABLE

BY NELDON KINGSTON

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Title III 306 E.S.E.A.
Initial Learning in
Mainstreaming Project
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EC 123084

Transparency

#1.....Tape

#2.....Tape

#3.....Tape

#4.....

#5.....

#6.....

#7.....

#8.....

#9.....

#10.....Tape

#11.....

#12.....

#13.....

#14.....Tape

#15.....Tape

#16.....

#17.....Tape

#18.....

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IMPORTANT

Most teacher presentations in this teaching unit follow the same format style and method. It will be necessary in at least the early units in both place value and rounding to review the presentations and become familiar with the tape - transparency format before presenting to the class.

Worksheets

Because it is the intent to provide a sufficient amount of worksheet practice for any regular class, a given class may not need to do all of the worksheets provided. As a rule of thumb, however, it is safer to give too much practice than too little.

Reviewing

After all instructional units have been mastered by the students and the class moves on to other instructional units, it will be necessary to occasionally provide a review of rounding numbers. This may be quite brief and should be done about once a week for 2 or 3 weeks and then probably about once a month thereafter. The exact spacing of reviews will depend upon the individual class. There are review worksheets and a place on the record forms provided for this purpose. Students having trouble on the reviews should watch the appropriate remedial loop. If enough of the class has difficulty on the reviews, the remedial loop filmstrip may be projected for the entire class. Tapes with audible tones are available for this purpose if inaudible tone tapes were ordered with your remedial loop.

This teaching unit utilizes several tape - transparency presentations. This method of presentation has been selected because

1. It is relatively free of teacher preparation demands.
2. It does not remove the teacher from the process.
3. It allows the teacher to give additional reinforcement to concepts at key points according to her/his own judgement.
4. It is low cost, making dissemination more economical and practical.

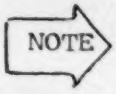
Numbering System

Tapes, transparencies, worksheets, etc. for this teaching unit are numbered consecutively. Tapes are numbered so as to have identical numbers to correspond to the transparencies they accompany. In cases where a tape is used for two separate transparency presentations, one directly follows the other with just enough space on the tape to insure convenience in ending one presentation and beginning another.

Worksheets and corresponding transparencies are not necessarily the same numbers.

Student Correcting

Several times in this unit reference is made about correcting worksheets. STUDENTS SHOULD CORRECT THEIR OWN WORKSHEETS following along with the teacher as she does the rounding or place value problem on a transparency made from the worksheet.



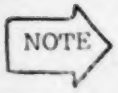
Additional Teacher Instruction

Most presentations in this unit have tapes. This is an attempt to make presentations be as small a burden on teachers and to require as little preparation time as possible. It is the intent of the program to assist rather than burden busy teachers.

The teacher should feel free to provide further clarity or explanation as she feels it is necessary. The following unit and structured presentations should be considered a minimum rather than a maximum amount of instruction.

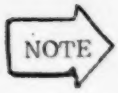
During presentations, etc., if the teacher notices something regarding her/his specific class such as the need to provide more clarification of a point etc., the teacher should provide this additional clarification, instruction or etc.

One method of providing additional weight to instruction would be to speak over the tape such as . . . "Did you notice that . . . " etc.. Occasionally it may be necessary to stop the tape to provide additional reinforcement to a given class. WHEN DOING THIS, HOWEVER, TRY TO RELATE THIS INSTRUCTION TO THE RULES OR STEPS BEING TAUGHT.



Supplemental Practice

If supplemental practice is needed, use the practice exercises in your textbook to provide this. Be careful not to give practice on concepts not yet covered in the unit presentations however, i.e. rounding whole numbers or with 9 involved before those sections are taught.



Pages #5, #6, #7

Pages #5, #6, and #7 are transition worksheets. Their purpose is to help students to use their skills in labeling a decimal number place value and in identifying where a certain place value is in a problem. This later skill is what is required in rounding numbers when a given place, like nearest tenth, is indicated. The teacher may have to provide an explanation of how to do these worksheets.

BEGINNING INSTRUCTION

Decimal Place Value

This unit is divided into 2 areas

1. Decimal Place Value
2. Rounding Numbers

The following concepts are considered in each area

1. Decimal Place Value
   (a) Decimal Place Value
   (b) Placing decimals in whole numbers without decimals.

2. Rounding Numbers
   (a) Rounding decimals
   (b) Rounding with 9 involved
   (c) Rounding whole numbers

PLACE

Transparency #1 on the overhead projector and the corresponding tape in the recorder. Follow along with the tape pointing, writing and etc. as needed.

WHEN

The explanation is through, pass out page #1 as directed on the tape.

NOTE

> The second part of this tape deals with transparency #2 which corrects page #1.

After page #1 has been completed, turn the recorder back on.

PLACE

transparency #2 on the overhead and correct page #1.

THEN

assign page #2.

AFTER

students are ready, correct page #2 and discuss it with the students.

Record the results on the record sheet by

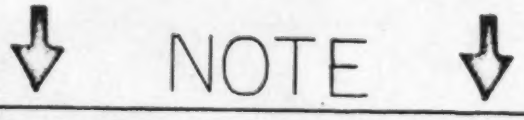
1. Students responding with total correct.
2. Those getting problem 6, 8 and 14 correct. This is the .0 column.
3. Those getting 4 and 15 right. This is the whole number concept marked by #. at the top of the column.

THEN

provide a brief concept review for any area suggested in need on the worksheet. Former transparencies may be used for this if desired.

NEXT

give the test and record the results in the same manner.



There is an extra worksheet (page 3) which can be used as a review sheet by the teacher at a later date.

THERE

is also a remedial loop available for the students indicated on the test as still needing additional help with decimal place value. This loop does not deal with the placement of decimals in whole numbers however.

> The next teaching unit deals with the placement of a decimal when only whole numbers are involved.

THIS UNIT

is very brief. It contains one tape-transparency presentation, a worksheet, a test and one example worksheet. The example worksheet which is labeled with an E is to show the student why this concept is important.

IMPORTANT

> The E (example) worksheet and accompanying sample dialogue for the teacher is OPTIONAL. It's only intent is to show students why it is important to know how to put a decimal in a number that doesn't have one. This optional exercise is in an area where a common problem occurs with students.

PLACE

transparency # 3 on the overhead and using the corresponding tape, follow along with the tape, pointing and etc., on the overhead to illustrate the points and concepts.

THEN

assign page #8. After the worksheet is completed, correct and go over it in class. Transparency #4 is provided to assist you in this. This transparency is of the worksheet and allows you to correct and discuss each answer in front of the class using a visual mode.

AFTER

completing the worksheet, give the test and record the results on the Decimal Place Value record form. This is recorded under the whole number category.

> On the test, it is correct if the decimal is placed where it ought to be. If the decimal is already there and they leave the problem alone this is also considered correct.

OPTIONAL
Worksheet E Instructions
(Page 10)

Pass out worksheet #E to students.

NOTE: The transparency used with this dialogue is identified to the students worksheet.

SAMPLE DIALOGUE

Tell students the transparency is the same as their worksheet.

Look at the sample problem. We are going to add 35, decimal 6 and 3 decimal 3. Notice the 35 is a whole number without a decimal. In order to line this problem up so we can work it we'll have to put a decimal in. Remember to add a decimal to a whole number that doesn't have one we just put the decimal to the right of the one's column. (Point to the lined up 35 with the decimal added.) Here we've put a decimal in right here and it is easy now to line up the problem so we can work it. We just line all the decimals up like in any decimal problem in addition or subtraction and add. (Go through and add the problem making a point of the decimal added after the 35.)

ASK 14

for questions and give further explanation if needed.

ASSIGN

the three practice problems. Correct and discuss how to work them. In correcting, work the problem out on the transparency for the class, explaining about adding the decimal as you go.

PASS

out the small cardstock student cards with the steps to rounding on them.

PUT

on transparency #5 . This transparency is the same as the student's cardstock cards. Read and review the steps with the students.

TELL

the students to keep the cardstock cards handy and not lose them as they will be using them to help them round numbers.

> DO NOT let students use the cards during tests. If conditions are such that the teacher is not likely to get replacement cards, she may want to have students hand the cards back in after the teaching unit is complete so as to have them for another year.

HAVE

ready transparencies numbers 6 - 7 - 8 and 9.

PLACE

transparency #6 on the overhead

THEN

state the problem listed, go through the steps using the problem provided to illustrate the steps, etc.

ASK

for questions and provide additional explanation as required.

AFTER

this put on transparency #7 and go through the same procedure with the class with this transparency. DO THE SAME THING FOR TRANSPARENCIES #8 AND #9 ALSO.

Make sure to supplement the transparencies with your own comments such as ". . .in this problem we are interested in hundredths so step one says. . .etc."

NOTE

On transparencies #6, #7, #8 and #9 the arrow points to the number being rounded and the number to the right is boxed.

NEXT

put on transparency #10 and it's accompanying tape. Follow along with the tape pointing, etc., to appropriate places on the transparency.

AFTER

the tape is through, answer any questions that the class may have.

THEN

tell students to turn to page #11 in the workbook. Follow the procedure given on page 15 of the manual.

WORKSHEET PROCEDURE

On page #11

have student work the first problem in each section and stop. When the class is ready, correct these three problems working it out for the class.

THEN

ask the class how many got them all right (the 3 problems). Take note of the students who do not raise their hands. Ask those who do not raise their hand where the problem is and provide the necessary clarification.

THEN

assign the rest of the worksheet and while the class is working it check with those students who had problems on the first three problems assigned.

FOLLOW

the same procedure for pages #12, #13, and #14.

RECORD

scores only for the last worksheet in each sub-section (page #13, #14, and #16). It is not necessary to have a percent, just have students tell you the number they got right. Record this on the rounding numbers worksheet section. (A teacher may feel it is beneficial to take scores more often than this. Doing this will provide even a better basis to help students. Even when the teacher is recording scores it can often help student motivation to verbally ask those who got 80% or better correct to raise their hands).

LOOK

when you get a chance, at the papers of those who got low scores and make a note in the spot provided on the record sheet of the nature of the student's problem. Provide additional clarity or if there is a remedial loop available, SPECIFIC TO THAT PROBLEM,use it for additional instruction.

Rounding Numbers

Dealing with 9

Transparency #14 and it's accompanying tape deal with the situation when 9 is rounded into 10. As this may be confusing to some students, a separate tape-transparency presentation is used to talk about this.

Use this tape-transparency program the same as the others.

First — Playing the tape, follow along on the transparency.

Second — Ask for questions.

Third — Assign the worksheet, and

Fourth — correct the worksheet using the transparency made of it, providing additional information as needed.

NOTE: The worksheet has only about 1/3 of the problems that deal with rounding a 9. This should be pointed out to students in advance.

This last teaching section deals with rounding of whole numbers.

It uses the same teaching sequence involving a tape-transparency presentation.

(1) Do the tape-transparency presentation.
(2) Ask for questions and answer them.
(3) Assign the worksheet.
(4) Correct the worksheet using the transparency made from it. Answer questions and provide additional clarity and explanation as needed.

Assign the students page 15. After they complete it, correct it with the class using the transparency made from the worksheet. Then assign page 16.

NOTE: This worksheet has both whole and decimal numbers on it.

You are now ready to GIVE THE TEST and RECORD the results on the ROUNDING NUMBERS record form.

IMPORTANT

This test deals with everything covered about rounding numbers, and includes both whole and decimal numbers.

STUDENTS NEEDING HELP

Students still having trouble may be referred to the remedial loop. The remedial loop <u>does not</u> deal with the rounding of 9 as a concept.

REMEDIAL LOOP NOTE

Generally on remedial loops only the loop test is scored. When the test is scored, it is scored only for the concept involved. If the problem is missed because of another concept than the one being taught, it is not scored as an error.

There are two remedial loops, 1 for decimals and 1 for whole numbers. ROUNDING DECIMALS SHOULD BE KNOWN BEFORE GIVING THE LOOP FOR ROUNDING WHOLE NUMBERS.

REVIEWING

There are some additional review exercises on rounding numbers that can be used as review from time to time during the school year. Space is provided for the recording of these review scores on the record form. These review exercises should be given according to the teachers judgement as to need. This will probably be about once a week for two or three weeks and about once a month thereafter. If necessary, the same worksheet can be used over again for review purposes. The sheets in the teacher's manual can be used to run extra copies if needed.

RECORD SECTION

Recording pages for both place value and rounding have been placed at the end of this teaching unit to make them easy to flip to and find for future use. If the teacher desires to change the position of the records she/he may do so.

UNIT TEST SCORES
Printed number at top is possible, written in is score.

Teacher_____
Class_____

	Total	Rounding Decimals	with 9	with whole numbers	Rounding Whole Numbers	Decimal Placevalue	Remedial loop	Review	Review	Review	Review	Review
Problems concerned with	ALL	all ex3,6	5,6 10	6,10 11,18	3,6	11-20	Pre / Post	1 / 2	3 / 4	5 / 6	7 / 8	9 / 10
Possible	20	18	3	4	2	10						
Student's Names												
James S	17	17	3	4	1	9	70 / 90	30				
Susan T	15	12	2	3	1	7	50 / 100	25				
Mike P	20	18	3	4	2	10		30				

SAMPLE

Teacher_____ Record: Decimal Place Value

Class_____

Problems	Page #2			Test Pg. 4			Whole numbers	Remedial Loop				
		6, 8, 14	4,15		5,7	3,10						
Student's Name	Concept	.0	#.	Concept	.0	#.		Concept	.0	#.		
James S	19	3	1	10	2	2	8					
Susan T	12	0	0	6	1	1	10	9	1			
Mike P	20	3	2	10	2	2	7					

SAMPLE

Teacher_____ Record: Decimal Place Value

Class_____

Problems	Page #2			Test Pg. 4			Whole numbers	Remedial Loop				
		6, 8, 14	4,15		5,7	8,10		Concept	.0	#.		
Student's Name	Concept	.0	#.	Concept	.0	#.						

Teacher_____ Record: Decimal Place Value

Class_____

Problems	Page #2			Test Pg. 4			Whole numbers	Remedial Loop				
		6, 8, 14	4,15		5,7	3,10						
Student's Name	Concept	.0	#.	Concept	.0	#.		Concept	.0	#.		

ROUNDING NUMBERS	Page #13	Page #14	Page #15	Optional Recording					NOTES
Possible	30	30	30						
Student Name									

ROUNDING NUMBERS	Page #13	Page #14	Page #15	Optional Recording					NOTES
Possible	30	30	30						
Student Name									
					30				

UNIT TEST SCORES
Printed number at top is possible, written in is score.

Teacher_____
Class_____

	Total	Rounding Decimals	with 9	with whole numbers	Rounding Whole Numbers	Decimal Placevalue	Remedial loop	Review	Review	Review	Review	Review
Problems concerned with	ALL	all ex3,6	5,6 10	6,10 11,18	3,6	11-20	Pre / Post	1 / 2	3 / 4	5 / 6	7 / 8	9 / 10
Possible	20	18	3	4	2	10						
Student's Names												

UNIT TEST SCORES
Printed number at top is possible, written in is score.

Teacher _____
Class _____

	Total	Rounding Decimals	with 9	with whole numbers	Rounding Whole Numbers	Decimal Placevalue	Remedial loop	Review	Review	Review	Review	Review
Problems concerned with	ALL	all ex3,6	5,6 10	6,10 11,18	3,6	11-20	Pre / Post	1 2	3 4	5 6	7 8	9 10
Possible	20	18	3	4	2	10						
Student's Names												

Key

Decimal Place Value

Page #1 (1) B (2) D (3) B (4) C (5) B

Page #2

(1)	1000th	(6)	1000th	(11)	100,000th	(16)	10th
(2)	10th	(7)	10th	(12)	100th	(17)	100th
(3)	100th	(8)	1000th	(13)	10th	(18)	1000th
(4)	1000th	(9)	1000th	(14)	100th	(19)	100th
(5)	10,000th	(10)	100th	(15)	1000th	(20)	10th

Page 3 - Review Exercise

(1)	1000th	(6)	1000th	(11)	100th	(16)	10th
(2)	1000th	(7)	10th	(12)	1000th	(17)	100th
(3)	100th	(8)	1000th	(13)	10th	(18)	1000th
(4)	1000th	(9)	100th	(14)	1000th	(19)	100th
(5)	1000th	(10)	100th	(15)	100th	(20)	1000th

Test Page #4

(1)	1000th	(6)	1000th
(2)	10th	(7)	10,000th
(3)	100th	(8)	100th
(4)	100th	(9)	1000th
(5)	100th	(10)	100th

Page #5

(1)	7.9601	(21)	.038
(2)	10.074	(22)	3.8695
(3)	2.706	(23)	47.356
(4)	.1011	(24)	.0987
(5)	36.5304	(25)	9.786
(6)	19.052	(26)	10.01
(7)	4.3217	(27)	40.2106
(8)	601.5687	(28)	25.436
(9)	715.7023	(29)	.634
(10)	.264	(30)	347.428
(11)	47.5868	(31)	595.3214
(12)	18.702	(32)	.6813
(13)	86.889	(33)	9.4501
(14)	49.3629	(34)	17.7011
(15)	.6824	(35)	.0098
(16)	14.883	(36)	207.3021
(17)	.6045	(37)	96.28
(18)	.9024	(38)	.8756
(19)	23.0097	(39)	700.1821
(20)	.0042	(40)	10.9208

Page #6

(1)	1.718	(21)	.0398
(2)	9.9268	(22)	16.744
(3)	47.3019	(23)	619.2018
(4)	.0567	(24)	.7188
(5)	21.4019	(25)	7.08
(6)	.3039	(26)	53.7865
(7)	711.3384	(27)	.2075
(8)	.785	(28)	.9732
(9)	369.9472	(29)	4.643
(10)	32.9734	(30)	53.4107
(11)	876.999	(31)	.8658
(12)	.7321	(32)	26.775
(13)	9.4658	(33)	600.4549
(14)	.3976	(34)	75.7854
(15)	1407.8958	(35)	.6521
(16)	1.7652	(36)	32.6497
(17)	724.2302	(37)	.861
(18)	.9056	(38)	208.0078
(19)	517.2317	(39)	9.8211
(20)	.4169	(40)	98.567

Key

Page #7

(1)	.0567	(21)	.407
(2)	.205	(22)	4.365
(3)	36.492	(23)	3.65
(4)	74.3658	(24)	4.0024
(5)	.0921	(25)	3.006
(6)	.046	(26)	.836
(7)	.921	(27)	.80
(8)	.005	(28)	2.46
(9)	3.4207	(29)	8.4765
(10)	.73	(30)	2.0154
(11)	.004	(31)	4.0627
(12)	2.3681	(32)	31.467
(13)	7.62	(33)	40.25
(14)	8.4687	(34)	18.21-
(15)	946.3	(35)	.37
(16)	34.321	(36)	.5604
(17)	1.76	(37)	.024
(18)	.347	(38)	.436
(19)	.462	(39)	.595
(20)	.3648	(40)	4.27

Page #8

(1)	Same	(6)	Same	(11)	760.	(16)	Same
(2)	Same	(7)	Same	(12)	95.	(17)	2376.
(3)	86.	(8)	27.	(13)	Same	(18)	Same
(4)	971.	(9)	Same	(14)	106.	(19)	7.
(5)	3.	(10)	15.	(15)	12.	(20)	39.

Page #9 - Test

(1)	77.	(2)	Same	(3)	Same	(4)	Same
(5)	5365.	(6)	8.	(7)	Same	(8)	83.
(9)	4.	(10)	Same				

Page #10 - Worksheet E

(1)	76.54	(2)	95.6	(3)	63.52

Page #11

A.	(1)	6.5	(6)	9.8	B.	(1)	.78	(6)	1.08
	(2)	.4	(7)	.2		(2)	.98	(7)	.26
	(3)	.1	(8)	2.7		(3)	67.54	(8)	.16
	(4)	7.4	(9)	.7		(4)	.26	(9)	.02
	(5)	.8	(10)	23.6		(5)	6.85	(10)	.16

C.	(1)	.794	(6)	2.163
	(2)	.246	(7)	.191
	(3)	62.497	(8)	.725
	(4)	10.642	(9)	.974
	(5)	.008	(10)	.015

Page #12

A.	(1)	.72	(6)	1.92	B.	(1)	.0	(6)	1
	(2)	.01	(7)	.69		(2)	1.7	(7)	72.1
	(3)	.17	(8)	76.17		(3)	109.7	(8)	.1
	(4)	9.07	(9)	18		(4)	.6	(9)	.2
	(5)	2.8	(10)	.08		(5)	3	(10)	.5

Key

Page #12 Con'd

C.

(1)	.074	(6)	1.474
(2)	.790	(7)	24.792
(3)	.005	(8)	.163
(4)	.938	(9)	4.705
(5)	19.788	(10)	.001

Page #13

A.

(1)	.973	(6)	6.005
(2)	.174	(7)	.108
(3)	.194	(8)	56.908
(4)	7.358	(9)	.776
(5)	17.795	(10)	365.019

B.

(1)	.02	(6)	.97
(2)	4.96	(7)	.01
(3)	.88	(8)	.60
(4)	.45	(9)	6.5
(5)	76.83	(10)	4.86

C.

(1)	.9	(6)	.5
(2)	.4	(7)	68.8
(3)	4.3	(8)	84.3
(4)	.8	(9)	.4
(5)	6.8	(10)	1.1

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A.

(1)	1.	(6)	.6
(2)	1.9	(7)	72.5
(3)	.1	(8)	135.9
(4)	.8	(9)	1.
(5)	.7	(10)	8

B.

(1)	4.819	(6)	.608
(2)	.107	(7)	.01
(3)	52.19	(8)	.134
(4)	7.158	(9)	3.79
(5)	135.764	(10)	.784

C.

(1)	.49	(6)	.19
(2)	.1	(7)	57.81
(3)	.11	(8)	3.58
(4)	.49	(9)	.09
(5)	76.47	(10)	3.71

Page #15

(1)	30	(6)	170	(11)	800	(16)	5200
(2)	3400	(7)	8000	(12)	330	(17)	1200
(3)	3500	(8)	5100	(13)	710	(18)	20
(4)	500	(9)	2000	(14)	2000	(19)	350
(5)	80	(10)	1000	(15)	9400	(20)	670

Whole Numbers Test

(1) 77. (2) Same (3) Same (4) Same (5) 5365. (6) 8.
(7) Same (8) 83. (9) 4. (10) Same

Page #16

(1)	.6	(11)	4000	(21)	.074
(2)	.3954	(12)	.11	(22)	72.8
(3)	465.7	(13)	84.7	(23)	.01
(4)	.004	(14)	40	(24)	.2
(5)	3500	(15)	180	(25)	.72
(6)	1850	(16)	.17	(26)	7.53
(7)	.94	(17)	500	(27)	.94
(8)	7350	(18)	1.857	(28)	.524
(9)	.37	(19)	.3	(29)	.03
(10)	20	(20)	92.7	(30)	.739

Key

Rounding Numbers Test

(1) .57
(2) .021
(3) 800
(4) .2
(5) .30
(6) 3690
(7) .2
(8) 5.6
(9) .572
(10) 35.98
(11) 6.32
(12) .48
(13) .13
(14) .48
(15) .7
(16) .5
(17) .4
(18) 27.635
(19) .765
(20) .048

Page #17

(1) .85
(2) .751
(3) 8000
(4) 1100
(5) .5
(6) .1735
(7) 52.962
(8) .2
(9) 1.036
(10) 9000
(11) .13247
(12) .828
(13) .15
(14) .6
(15) 673.4
(16) 37.9
(17) .2
(18) .5
(19) .988
(20) .63
(21) 70
(22) .004
(23) .0014
(24) .09
(25) 70
(26) .9
(27) 550
(28) 94400
(29) 110
(30) 5.937

Page #18

(1) .4
(2) 13.76
(3) 6000
(4) .11
(5) 680
(6) 1500
(7) 100
(8) 86000
(9) .115
(10) 7.93
(11) 800
(12) 6410
(13) 15.15
(14) 25970
(15) 20
(16) .05
(17) .15538
(18) 1550
(19) 5.93
(20) 58410
(21) 60
(22) .0036
(23) 57.19
(24) .1
(25) .1
(26) 25.48
(27) 3900
(28) .001
(29) .4
(30) .106

Page #19

(1) .74
(2) .251
(3) 9000
(4) 1400
(5) .4
(6) .2845
(7) 48.473
(8) .3
(9) 1.05
(10) 9500
(11) .44348
(12) .838
(13) .26
(14) .8
(15) 487.6
(16) 25.9
(17) .2
(18) .4
(19) .965
(20) .72
(21) 90
(22) .09
(23) 50
(24) .5
(25) 660
(26) 58400
(27) 120
(28) 60
(29) 230
(30) 7.427

Page #20

(1) .3
(2) 25.84
(3) 4000
(4) .231
(5) 790
(6) 2500
(7) 200
(8) 76000
(9) .327
(10) 7.92
(11) 800
(12) 7410
(13) 46.27
(14) 47,660
(15) 20
(16) .06
(17) .23346
(18) 2160
(19) 9.760
(20) 76,300
(21) 80
(22) .0047
(23) 48.29
(24) .1
(25) .4
(26) 43.57
(27) 7900
(28) .001
(29) .7
(30) .208

Key

Page #21

A.

(1)	1	(6)	.7
(2)	2.9	(7)	72.7
(3)	.1	(8)	157.9
(4)	1	(9)	6.1
(5)	.8	(10)	1

B.

(1)	6.439	(6)	.318
(2)	.206	(7)	.234
(3)	25.140	(8)	.010
(4)	4.458	(9)	7.470
(5)	253.576	(10)	.487

C.

(1)	.70	(6)	.39
(2)	.88	(7)	6.77
(3)	.31	(8)	69.50
(4)	.79	(9)	.09
(5)	67.37	(10)	5.61

Page #22

(1)	.7	(11)	40	(21)	540
(2)	.9532	(12)	9000	(22)	27.5
(3)	654.8	(13)	93.6	(23)	20
(4)	.002	(14)	250	(24)	.020
(5)	7700	(15)	60	(25)	2300
(6)	2790	(16)	.19	(26)	9.35
(7)	.84	(17)	300	(27)	490
(8)	4380	(18)	7.58	(28)	.413
(9)	30	(19)	600	(29)	.05
(10)	.66	(20)	47.3	(30)	3790

1

Count the decimal dot as 1 and add a zero to this one for each number to the right of it.

Problem 1 .591

Answer 1000

Problem 2 .7

Answer

Problem 3 .05

Answer

Problem 4 35.12

Answer

2

(1) .91

A. 10th
B. 100th
C. 1000th
D. 10,000th

(2) .15967

A. 100th
B. 1,000th
C. 10,000th
D. 100,000th

(3) .52

A. 10th
B. 100th
C. 1,000th
D. 10,000th

(4) .006

A. 10th
B. 100th
C. 1,000th
D. 10,000th

(5) .4

A. 1
B. 10th
C. 100th
D. 1,000th

3

.354

7

85

.21

45.62

789

24

35

E

E Worksheet

Sample Problem: Add 35, .6, 3.3

$$\begin{array}{r} 35. \\ .6 \\ +\ 3.3 \\ \hline \end{array}$$

Add this decima

(1) Add: .4, 76, .14

(2) Subtract: 96 - .4

(3) Add: 2.46, 18.1, .96, 42

4

(1)	46.39	(11)	760
(2)	.049	(12)	95
(3)	86	(13)	5.02
(4)	971	(14)	106
(5)	3	(15)	12
(6)	3.3	(16)	57.3941
(7)	1479.5	(17)	2376
(8)	27	(18)	8.004
(9)	.8	(19)	7
(10)	15	(20)	39

5

STEPS IN ROUNDING NUMBERS

Step 1. Find the number you want to round.

Step 2. Look at the number to the right of it.

Step 3. Ask yourself, is the number 5 or more?

Step 4. If it is, make the number you round 1 more and drop the numbers to the right of it.

Step 4a. If it isn't, just leave the number being rounded the same and drop the numbers to the right of it.

Transparency

6

Rounding Numbers

Problem:

Round this number 45.056745 to the nearest hundredths (100th)

Step 1.

Find the number you want to round.

45.056745

Step 2:

Look at the number to the right of it

45.056745

Step 3:

Ask yourself, is the number 5 or more?

45.056745

YES (go to step 4 use 4a only if the answer is NO.)

Step 4:

If it is, make the number you round 1 more and drop the numbers to the right of it.

45.06

Step 4a:

If it isn't, just leave the number being rounded the same and drop the numbers to the right of it.

Transparency

7

Rounding Numbers

Problem:

Round this number 77.739 to the nearest tenth (10th)

Step 1:

Find the number you want to round.

77.739

Step 2:

Look at the number to the right of it.

77.739

Step 3:

Ask yourself, is the number 5 or more?

77.739

NO (go to step 4a. use step 4 only if the answer is yes.

Step 4:

If it is, make the number you round 1 more and drop the numbers to the right of it.

Step 4a:

If it isn't, just leave the number being rounded the same and drop the numbers to the right of it.

77.7

8 Rounding Numbers

Problem:

Round this number .0536 to the nearest thousandth (1000th)

Step 1:
Find the number you want to round.

.0536

Step 2:
Look at the number to the right of it.

.0536

Step 3:
Ask yourself, is the number 5 or more?

.0536

YES (go to step 4. Use 4a only if the answer is no.)

Step 4:
If it is, make the number you round 1 more and drop the numbers to the right of it.

.054

Step 4a: If it isn't, just leave the number being rounded the same and drop the numbers to the right of it.

Transparency

9

Rounding Numbers

Problem:

Round this number 2.531 to the nearest tenth (10th)

Step 1:
Find the number you want to round.

2.531
↑

Step 2:
Look at the number to the right of it.

2.5[3]1
↑

Step 3:
Ask yourself, is the number 5 or more:

2.5[3]1
↑

NO (go to step 4a. Use step 4 only if the answer is YES.)

Step 4:
If it is, make the number you round 1 more and drop the numbers to the right of it.

Step 4a:
If it isn't, just leave the number being rounded the same and drop the numbers to the right of it.

2.5
↑

10

5 and up makes it one more and we always drop the numbers to the right.

57.4863

1000 ths → (A) 57.486

100 ths → (B) 57.49

10ths → (C) 57.5

1 → (D) 57

10 → (E) 60

11

A. Round to the nearest 10th.

(1) 6.457 _____
(2) .361 _____
(3) .0619 _____
(4) 7.398 _____
(5) .768 _____
(6) 9.786 _____
(7) .178 _____
(8) 2.987 _____
(9) .7019 _____
(10) 23.64 _____

B. Round to the nearest 100th.

(1) .784 _____
(2) .97634 _____
(3) 67.543 _____
(4) .259 _____
(5) 6.853 _____
(6) 1.079 _____
(7) .256 _____
(8) .1976 _____
(9) .01721 _____
(10) .1642 _____

C. Round to the nearest 1000th.

(1) .7943 _____
(2) .2459 _____
(3) 62.4973 _____
(4) 10.6421 _____
(5) .00791 _____
(6) 2.16342 _____
(7) .19083 _____
(8) .7298 _____
(9) .97356 _____
(10) .0147 _____

12

A. Round to the nearest 100th

(1) .7169 _____
(2) .0086 _____
(3) .17243 _____
(4) 9.0708 _____
(5) .98765 _____
(6) 1.9236 _____
(7) .6891 _____
(8) 76.1734 _____
(9) 18.0007 _____
(10) .0761 _____

B. Round to the nearest 10th.

(1) .019 _____
(2) 1.7086 _____
(3) 109.723 _____
(4) .6194 _____
(5) 2.98 _____
(6) .97245 _____
(7) 72.093 _____
(8) .0704 _____
(9) .1713 _____
(10) .537 _____

C. Round to the nearest 1000th.

(1) .07357 _____
(2) .7904 _____
(3) .0045 _____
(4) .9376 _____
(5) 19.7891 _____
(6) 1.4736 _____
(7) 24.7918 _____
(8) .1692 _____
(9) 4.7093 _____
(10) .0006 _____

13

A. Round to the nearest 1000th.

(1)	.9734	_____	(6)	6.0054	_____
(2)	.1735	_____	(7)	.10762	_____
(3)	.19357	_____	(8)	56.9081	_____
(4)	7.3580	_____	(9)	.77643	_____
(5)	17.7954	_____	(10)	365.0186	_____

B. Round to the nearest 100th

(1)	.017	_____	(6)	.974	_____
(2)	4.9578	_____	(7)	.0063	_____
(3)	.876	_____	(8)	.603	_____
(4)	.4538	_____	(9)	6.504	_____
(5)	76.825	_____	(10)	4.8632	_____

C. Round to the nearest 10th

(1)	.86	_____	(6)	.4791	_____
(2)	.3841	_____	(7)	68.79	_____
(3)	4.321	_____	(8)	84.328	_____
(4)	.82365	_____	(9)	.382	_____
(5)	6.84	_____	(10)	1.072	_____

14

$$9 + 1 = 10$$

$$19 + 1 = 20$$

$$29 + 1 = 30$$

$$39 + 1 = 40$$

$$49 + 1 = 50$$

$$149 + 1 = 150$$

15

ROUND
↓
(1) .4498 - .449 + 1 = .450 - .45

(2) .4493 = .449

16

A. Round these numbers to the nearest 10th

(1)	.791	_____	(6)	.564	_____
(2)	1.094	_____	(7)	72.54	_____
(3)	.079	_____	(8)	135.09	_____
(4)	.7654	_____	(9)	.194	_____
(5)	.724	_____	(10)	8.024	_____

B. Round to the nearest 1000th.

(1)	4.8904	_____	(6)	.6084	_____
(2)	.1067	_____	(7)	.0095	_____
(3)	52.1986	_____	(8)	.1342	_____
(4)	7.1584	_____	(9)	3.7895	_____
(5)	135.7641	_____	(10)	.7835	_____

C. Round to the nearest 100th.

(1)	.4873	_____	(6)	.974	_____
(2)	.09763	_____	(7)	57.809	_____
(3)	.1073	_____	(8)	3.576	_____
(4)	.4598	_____	(9)	.07354	_____
(5)	76.473	_____	(10)	3.705	_____

17

3275

Rounded to 10 is 3280

Rounded to 100 is 3300

Rounded to 1000 is 3000

18

Round to the number with the * above it.

(1)	$\overset{*}{2}6$	_____	(11)	$\overset{*}{7}64$	_____
(2)	$3\overset{*}{4}39$	_____	(12)	$3\overset{*}{2}7$	_____
(3)	$3\overset{*}{5}04$	_____	(13)	$7\overset{*}{0}7$	_____
(4)	$\overset{*}{5}27$	_____	(14)	$\overset{*}{1}734$	_____
(5)	$\overset{*}{7}6$	_____	(15)	$9\overset{*}{4}37$	_____
(6)	$1\overset{*}{6}5$	_____	(16)	$5\overset{*}{2}08$	_____
(7)	$\overset{*}{8}346$	_____	(17)	$1\overset{*}{1}53$	_____
(8)	$5\overset{*}{0}94$	_____	(18)	$\overset{*}{1}6$	_____
(9)	$\overset{*}{2}435$	_____	(19)	$3\overset{*}{4}6$	_____
(10)	$1\overset{*}{0}32$	_____	(20)	$6\overset{*}{7}1$	_____